

AMENDMENTS TO THE CLAIMS

1-29. (Cancelled)

30. (Currently Amended) A method for recording a digital data stream on a recording medium, the method comprising:

recording the digital data stream by dividing the digital data stream into stream objects each comprising one or more stream object units;

recording common information for the stream objects; and

recording stream time map information in a stream information file of the recording medium, the stream time map information including a time mapping list having time search information for searching the stream objects,

wherein the time mapping list includes one or more a sub time mapping lists mapping list, and each of the sub time mapping lists has the list having time search information for searching the corresponding one of the stream object units digital data stream.

31. (Previously Presented) The method of claim 30, wherein the step of recording the stream time map information includes recording stream time map general information in the stream information file, the stream time map general information including management information of the stream objects recorded on the recording medium.

32. (Previously Presented) The method of claim 31, wherein each of the stream objects has a plurality of stream object units, and the time mapping list has the time search information for searching each of the stream object units.

33. (Cancelled)

34. (Previously Presented) The method of claim 30, wherein the step of recording the common information includes recording a table of content in an application information file of the recording medium.

35. (Previously Presented) The method of claim 34, wherein the table of content includes random-access entry point information that allows random access to the recorded data stream.

36. (Previously Presented) The method of claim 30, wherein the step of recording the common information includes recording the common information in a common information file of the recording medium, the common information including a playlist for the stream objects.

37. (Previously Presented) The method of claim 36, wherein the common information further includes presentation sequence information of the recorded digital data stream.

38. (Currently Amended) An apparatus for recording a digital data stream on a recording medium, the apparatus comprising:

a recording unit to record the digital data stream by dividing the digital data stream into stream objects ~~each having one or more stream object units~~, to record common information for the stream objects, and to record stream time map information in a stream information file of the recording medium, the stream time map information including a time mapping list ~~having time search information for searching~~ the stream objects,

wherein the time mapping list includes ~~one or more~~ a sub time mapping lists mapping list, and ~~each of~~ the sub time mapping lists has the list having time search information for searching the ~~corresponding one of the stream object units~~ digital data stream.

39. (Currently Amended) The apparatus of claim 38, wherein the recording unit ~~for recording to record~~ the stream time map information records stream time map general information in the stream information file, the stream time map general information including management information of the stream objects recorded on the recording medium.

40. (Previously Presented) The apparatus of claim 39, wherein each of the stream objects has a plurality of stream object units, and the time mapping list has the time search information for searching each of the stream object units.

41. (Cancelled)

42. (Currently Amended) The apparatus of claim 38, wherein the recording unit ~~for recording to record~~ the common information records a table of content in an application information file of the recording medium.

43. (Previously Presented) The apparatus of claim 42, wherein the table of content includes random-access entry point information that allows random access to the recorded data stream.

44. (Currently Amended) The apparatus of claim 38, wherein the recording unit ~~for recording to record~~ the common information records the common information in a common information file of the recording medium, the common information including a playlist for the stream objects.

45. (Previously Presented) The apparatus of claim 44, wherein the common information further includes presentation sequence information of the recorded digital data stream.

46. (Currently Amended) A recording medium for recording digital data using a digital data recorder, the recording medium comprising:

a digital data stream divided into stream objects ~~each comprising one or more stream object units and recorded on the recording medium;~~

common information recorded on the recording medium for the stream objects; and

stream time map information recorded in a stream information file of the recording medium, the stream time map information including a time mapping list ~~having time search information for searching~~ the stream objects,

wherein the time mapping list includes ~~one or more~~ a sub time mapping lists mapping list, ~~and each of~~ the sub time mapping lists ~~has the~~ list having time search information for searching the ~~corresponding one of the stream object units~~ digital data stream.

47. (Currently Amended) The recording medium of claim 46, wherein the stream time map information includes stream time map general information in the stream information file, the stream time map general information including management information of the stream objects recorded on the recording medium.

48. (Previously Presented) The recording medium of claim 47, wherein each of the stream objects has a plurality of stream object units, and the time mapping list has the time search information for searching each of the stream object units.

49. (Cancelled)

50. (Previously Presented) The recording medium of claim 46, wherein the common information includes a table of content recorded in an application information file of the recording medium.

51. (Previously Presented) The recording medium of claim 50, wherein the table of content includes random-access entry point information that allows random access to the recorded data stream.

52. (Previously Presented) The recording medium of claim 46, wherein the common information is recorded in a common information file of the recording medium, the common information including a playlist for the stream objects.

53. (Previously Presented) The recording medium of claim 52, wherein the common information further includes presentation sequence information of the digital data stream.

54. (New) A method for searching a digital data stream on a recording medium, the method comprising:

reading the digital data stream which is divided into stream objects;
reading common information for the stream objects;
reading stream time map information in a stream information file recorded on the recording medium, the stream time map information including a time mapping list for the stream objects, the time mapping list including a sub time mapping list; and
searching the digital data stream based on time search information included in the sub time mapping list.

55. (New) The method of claim 54, wherein the step of reading the stream time map information includes reading stream time map general information in the stream information file, the stream time map general information including management information of the stream objects recorded on the recording medium.

56. (New) The method of claim 55, wherein each of the stream objects has a plurality of stream object units, and the time mapping list has the time search information for searching each of the stream object units.

57. (New) The method of claim 54, wherein the step of reading the common information includes reading a table of content in an application information file of the recording medium.

58. (New) The method of claim 57, wherein the table of content includes random-access entry point information that allows random access to the recorded data stream.

59. (New) The method of claim 54, wherein the step of reading the common information includes reading the common information in a common information file of the recording medium, the common information including a playlist for the stream objects.

60. (New) The method of claim 59, wherein the common information further includes presentation sequence information of the recorded digital data stream.

61. (New) An apparatus for searching a digital data stream on a recording medium, the method comprising:

a reading unit to read the digital data stream which is divided into stream objects, to read common information for the stream objects, and to read stream time map information in a stream information file recorded on the recording medium, the stream time map information including a time mapping list for the stream objects, and the time mapping list including a sub time mapping list; and

a searching unit to search the digital data stream based on time search information included in the sub time mapping list.

62. (New) The method of claim 61, wherein the reading unit to read the stream time map information reads stream time map general information in the stream information file, the stream time map general information including management information of the stream objects recorded on the recording medium.

63. (New) The method of claim 62, wherein each of the stream objects has a plurality of stream object units, and the time mapping list has the time search information for searching each of the stream object units.

64. (New) The method of claim 61, wherein the reading unit to read the common information reads a table of content in an application information file of the recording medium.

65. (New) The method of claim 64, wherein the table of content includes random-access entry point information that allows random access to the recorded data stream.

66. (New) The method of claim 61, wherein the reading unit to read the common information reads the common information in a common information file of the recording medium, the common information including a playlist for the stream objects.

67. (New) The method of claim 66, wherein the common information further includes presentation sequence information of the recorded digital data stream.